

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Infusion Bag

We, PNEUMATIC SCALE CORPORATION, LIMITED, of North Quincy, Massachusetts, United States of America, a Corporation organised and existing under the laws of the State of Massachusetts, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to an infusion bag.

The invention has for an object to provide a novel and improved infusion bag having a handle secured thereto in a simple, practical and economical manner.

In general, the present invention contemplates an infusion bag of the type produced by folding a rectangular blank of heat sealable filter paper to form two half sections and joining the edges thereof by a heat sealing operation after a quantity of the infusion material, such as tea, has been deposited into the bag. The bag forming material comprises a thin porous filter paper embodying a thermoplastic material on at least one surface thereof which becomes adhesive upon being subjected to heat and pressure to cause adherence of the confronting inner faces of the paper. In accordance with the present invention a handle comprising a flexible member, such as a relatively narrow strip or ribbon of paper, Cellophane (Registered Trade Mark) or other suitable material, is attached to the bag by interposing a portion of the flexible handle between the opposed walls of the mouth portion of the bag section prior to heat sealing thereof and thereafter closing and heat sealing the mouth portion to close the bag and to attach the flexible handle thereto. A tag is provided on the extended end of the handle which is attached thereto by heat sealing. The flexible handle is wound around the bag and a portion of the handle extending beyond the tag is attached to the bag by heat sealing, whereby to prevent entanglement

of the handle and the tag with similar bags and handles when packed in a container for shipment.

An embodiment of the invention will now be described by way of example with reference to the accompanying drawings, in which:—

Fig. 1 is a front view of a two section foldable tag having one end of a handle placed over one of the sections;

Fig. 2 is a similar view showing the end of the handle heat sealed between the folds of the two section tag;

Fig. 3 is a perspective view of a blank of bag making material showing the other end of the handle folded upon itself and placed within the edge of the mouth portion prior to folding, filling and sealing the bag;

Fig. 4 is a cross sectional view of the completed bag and handle showing the folded end of the handle heat sealed between opposed side walls of the mouth of the bag, and the handle wound around the bag with the extended end of the handle detachably secured to the bag; and

Fig. 5 is a front elevation of the completed bag showing the handle detached and extended for use.

Referring to the drawings and particularly to Figs. 3 and 5, the present infusion bag is herein illustrated as comprising a flat bag 10 formed from a rectangular blank 12 of heat sealable bag forming material comprising a thin porous paper web having thermoplastic material incorporated therein preferably on one side of the paper only. In the production of the bag the rectangular blank 12 is folded along a medial line 14 to form two half sections and to present the thermoplastic faces together whereupon the marginal side edges are heat sealed by the application of heat and pressure. A quantity of tea or other infusion material 15 is then deposited within the bag through the open top thereof.

In accordance with the present invention

the mouth of the infusion bag is provided with a flexible handle 16 which may comprise a thin and relatively narrow length of paper, Cellophane (Registered Trade Mark) or the like, preferably embodying a thermoplastic material on one face thereof so as to be capable of being heat sealed. As clearly shown in Fig. 4, one end of the heat sealable handle 16 is folded upon itself and inserted between the walls of the mouth portion adjacent the medial portion thereof whereupon the top edges of the bag are subjected to the application of heat and pressure to render adhesive the thermoplastic material in the paper and in the handle whereby to secure the folded end of the handle between the opposed walls of the mouth portion and to seal the mouth of the bag. The handle material is folded upon itself so as to present the thermoplastic faces thereof in confronting relation to the thermoplastic inner faces of the mouth portion, thus providing a secure bond of the confronting faces over the folded area of the inserted end of the handle. It will also be observed that folding of the inserted end of the handle presents a greater length of the handle in adhesive contact with the bag and is thus less subject to becoming inadvertently detached than a structure wherein but a single unfolded length is inserted and secured in the bag mouth. In practice the adhesive thermoplastic material will flow around the inserted portion of the handle to securely bond the handle to the bag mouth.

As illustrated in Figs. 2 and 5, the other end of the handle 16 is provided with a tag 18 which is heat sealed to the handle. The tag 18 may comprise a relatively thin paper also embodying a thermoplastic material on at least one surface thereof and formed in two sections adapted to be folded together. As shown in Figs. 1 and 2, the extended end of the thermoplastic handle 16 is interposed between the folds of the tag and subjected to heat and pressure to render adhesive the thermoplastic material of the inner faces of the tag and one side of the handle whereby to seal the two sections of the tag together and to adhesively secure the handle therebetween. As illustrated, the end of the handle extends a short distance beyond the tag.

In order to prevent entanglement of the handle with the handles of other bags during packing and shipment the handle is wound around the bag, as shown in Fig. 4,

and the thermoplastic face of the extended end of the handle is then heat sealed lightly to the outer face of the bag adjacent the mouth portion thereof, as indicated at 20, in a manner such that the tag end of the handle may be easily detached by the consumer to extend the handle for use as shown in Fig. 5. It will be observed that the thermoplastic inner face of the ribbon 16 is placed in engagement with the non-thermoplastic outer face of the bag material to effect heat sealing of the tag end of the handle to the bag.

The handle may be placed in operative relation to the bag material prior to heat sealing thereof in any convenient manner, one expedient being indicated in Fig. 3 wherein the handle may be supported lengthwise along the outer face of the rectangular bag blank and the folded end of the handle bent over into engagement with the adjacent mouth portion prior to the folding operation.

While the preferred embodiment of the invention has been herein illustrated and described, it will be understood that the invention may be embodied in other forms within the scope of the following claims.

WHAT WE CLAIM IS:—

1. An infusion bag containing beverage infusion material and comprising a rectangular sheet folded upon itself, said folded sheet having thermoplastic material on at least the inner faces thereof and heat sealed along the side edges and mouth of the bag, a handle comprising a relatively narrow flat strip of material provided with thermoplastic material on one face thereof and having one end folded upon itself and inserted and heat sealed between the walls of said mouth with the thermoplastic faces of the handle and the thermoplastic faces of the bag material in confronting relation, and a tag also having thermoplastic material on at least one face thereof and folded upon and heat sealed to the other end of said handle, said handle being wound around the bag and having a relatively small length extending beyond the tag, the thermoplastic face thereof being lightly heat sealed to the outer face of the bag against the sealed mouth portion thereof.
2. An infusion bag substantially as hereinbefore described and as shown in the accompanying drawings.

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COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of the Original on a reduced scale.

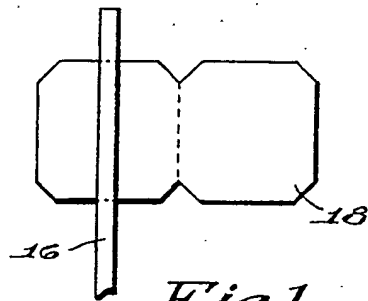


Fig. 1

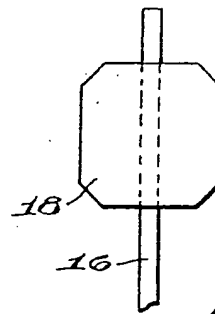


Fig. 2

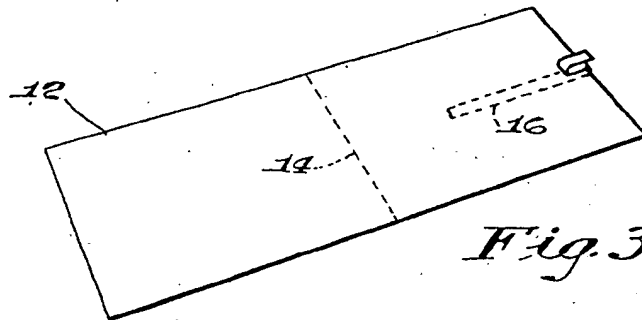


Fig. 3

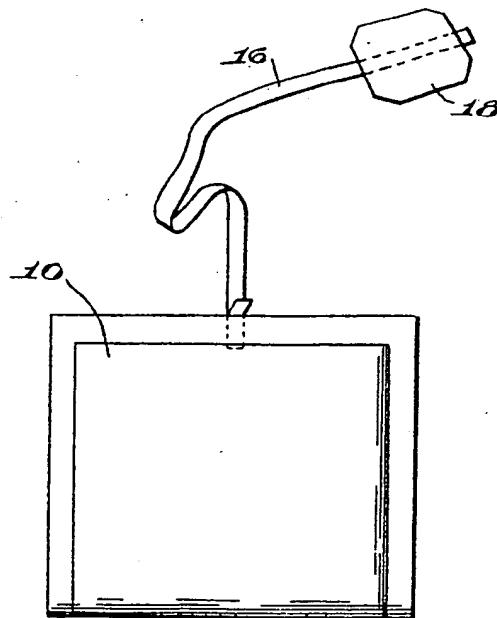


Fig. 5

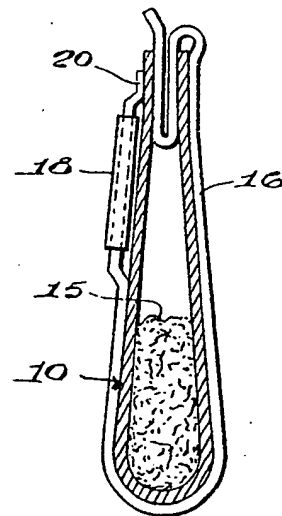


Fig. 4